

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>LP . CRM2735WO</b>	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. <b>PCT/BE2004/000157</b>	International filing date ( <i>day/month/year</i> ) <b>02.11.2004</b>	Priority date ( <i>day/month/year</i> ) <b>17.12.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C23C2/26</b>		
Applicant <b>CENTRE DE RECHERCHES METALLURGIQUES ASBL-CENTRUM VOOR RESEARCH IN DE METALLURGIE VZW</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>7</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> ( <i>sent to the applicant and to the International Bureau</i> ) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> ( <i>sent to the International Bureau only</i> ) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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Box No. I

Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-13 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-32 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/1 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1.	Statement		
	Novelty (N)	Claims <u>7, 8, 22, 32</u>	YES
		Claims <u>1-6, 9-21, 23-31</u>	NO
	Inventive step (IS)	Claims <u>22, 32</u>	YES
		Claims <u>7, 8</u>	NO
	Industrial applicability (IA)	Claims <u>1-32</u>	YES
		Claims _____	NO
2.	Citations and explanations (Rule 70.7)		
1.	Reference is made to the following documents:		
	D1: WO 03/048403 A (LE CRAZ SEBASTIEN; CT DE RECH S METALLURG ASBL CE (BE)) 12 June 2003 (2003-06-12)		
	D2: PATENT ABSTRACTS OF JAPAN vol. 013, no. 187 (C-592), 2 May 1989 (1989-05-02) -& JP 01 011983 A (NISSHIN STEEL CO LTD), 17 January 1989 (1989-01-17)		
	D3: US-A-5 853 850 (IWAI MASATOSHI ET AL) 29 December 1998 (1998-12-29)		
	D4: PATENT ABSTRACTS OF JAPAN vol. 1998, no. 03, 27 February 1998 (1998-02-27) -& JP 09 296277 A (NKK CORP), 18 November 1997 (1997-11-18)		
	D5: WO 02/086194 A (ITN NANOVAION GMBH; BINKLE OLAF (DE); NONNINGER RALPH (DE)) 31 October 2002 (2002-10-31)		
	D6: PATENT ABSTRACTS OF JAPAN vol. 013, no. 134 (C-581), 4 April 1989 (1989-04-04) & JP 63 297576 A (NISSHIN STEEL CO LTD), 5 December 1988 (1988-12-05)		
2.	<b>Novelty</b>		
2.1	The present application fails to meet the requirements of PCT Article 33(1), since the		

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	<p>subject matter of claims 1 to 6, 9 to 21 and 23 to 31 does not comply with the criterion of novelty as defined by PCT Article 33(2).</p> <p>2.2 D1 (the references between parentheses apply to said document) describes a method for continuously coating a substrate in movement, preferably a metal strip made of steel, according to which said coating deposited on the substrate includes an ultra-fine layer preferably between 40 and 500 nm thick, characterised in that the deposit is made from an aqueous solution containing oxide nanoparticles, under controlled pH conditions at a substrate temperature higher than 200 °C for 10 seconds, and preferably for less than 2 seconds (cf. claim 1).</p> <p>Given that the expression "thinning agent having an antagonistic effect" does not enable a person skilled in the art to carry out the invention and that certain thinning agents in the independent claims are defined as additives in D1 (cf. page 9), the subject matter of claim 1 and consequently that of product claim 31 of the present application are not novel.</p> <p>Furthermore, given that device claim 30 does not contain <b>product</b> features enabling it to be differentiated from the device used in D1 (cf. paragraphs [0064] to [0069]), the subject matter of claim 30 is therefore not novel either.</p> <p>2.3 D3 describes a product and a preparation method, according to which a steel strip is coated with a</p>

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>layer of particles, for example made of silicon having a particle size of 20 to 300 nm, preferably 30 to 50 nm (cf. claims 1, 6, 14; column 11, lines 1 to 2). The coating composition contains additives likely to affect the kinetics of the method (cf. table 12). Since novelty is an absolute concept, claims 1 and 31 are not novel, unless the applicant proves that the compounds disclosed are not "thinning agents".</p> <p>2.4 A similar method for forming layers with oxide particles having a particle size of 4 to 10 nm is described in D4 (cf. the abstract from the Japanese Office). In paragraph 18, the addition of borates or phosphates is disclosed. For the same reasons as in point 2.1 above, claims 1 and 31 are not novel.</p> <p>2.5 In the light of D1, D3 and D4 and the corresponding passages cited in the international search report, dependent claims 2 to 6 and 23 to 29 contain no feature which, when combined with the features of any one of the claims to which they refer, defines subject matter that complies with the PCT requirements of novelty.</p> <p>2.6 The combination of features of claims 22 and 32 is not found in the prior art and cannot be derived in an obvious manner therefrom. Consequently, the subject matter of claims 22 and 32 is novel (PCT Article 33(2)).</p>

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	
<b>3.</b>	<b>Inventive step</b>  <p>3.1 The present application fails to meet the requirements of PCT Article 33(1), since the subject matter of claims 7 and 8 does not involve an inventive step as defined by PCT Article 33(3).</p> <p>3.2 In the light of D1, D3 and D4 and the corresponding passages cited in the international search report, dependent claims 7 and 8 contain no feature which, when combined with the features of any one of the claims to which they refer, defines subject matter that complies with the PCT requirements of inventive step. The difference between said documents and the present application relates only to features that are well known in the technical field of the invention (see D2, D5 and D6 and the corresponding passages cited in the international search report).</p> <p>3.3 The combination of features of claims 22 and 32 is not found in the prior art and cannot be derived in an obvious manner therefrom. Consequently, the subject matter of claims 22 and 32 involves an inventive step.</p> <td></td>	
<b>4.</b>	<b>Industrial applicability</b>  <p>4.1 The present application is considered industrially applicable since the subject matter thereof can be used in the metal surface treatment industry.</p>	

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**Box No. VIII**      **Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 1 fails to comply with the requirements of PCT Article 6 in so far as the subject matter for which protection is sought has not been clearly defined. The claim attempts to define said subject matter by the result to be achieved, "Method... characterised... thinning agent having an antagonistic effect", yet this merely amounts to stating the basic problem the invention is intended to solve, without providing the technical features required to achieve this result.